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Pollution Kills a Third Of Bay Grasses

2003 Saw Largest Drop In 20 Years of Surveys

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Almost a third of the underwater grasses in the Chesapeake Bay died during 2003, unable to survive as pollution blotted out their sunlight, according to a report released yesterday.

It was the biggest one-year decline for the grasses since the first survey in 1984, according to the report issued by the Chesapeake Bay Program, a partnership of bay states and the U.S. Environmental Protection Agency.

Environmentalists said the decline of the plants, which provide oxygen, food and shelter for bay animals, showed how fundamentally the bay has been altered by pollution.

"That's a bay out of balance. We are missing a very important habitat element in the bay by not having these grasses," said Mike Fritz of the Chesapeake Bay Program.

The grasses were surveyed by scientists from the Virginia Institute of Marine Science, who took more than 2,000 aerial photographs of the bay from May to October.

The survey found that, bay-wide, grasses had declined from about 90,000 acres in 2002 to about 65,000 acres last year. Maryland was particularly hard hit, state officials said, with a 41 percent drop in grasses in its section of the bay.

Scientists said the main reason for the decline was a year of heavy rainfall. This washed large amounts of such pollutants as nitrogen and phosphorus -- from farm manure, lawn fertilizer and sewage-treatment plants -- into rivers upstream.

In the bay, these fed massive algae blooms, which blocked out sunlight underwater. The rainfall also washed tons of dirt into the bay, further clouding the water.

Scientists said underwater plants, many of which die and sprout again every year, could not find enough light to grow last year.

"If they start to come up, and there's not any light, they die. That's it," said Michael Naylor, an environmental specialist for the Maryland Department of Natural Resources.

Some scientists said that last year's results made them despair that the goal of expanding the growth of healthy grasses to 185,000 acres by 2010 would not be reached.

The goal was intended to return the bay to something near its state before the arrival of European settlers. Before then, scientists believe, the bay was much clearer, and grasses may have grown across a third of its bottom.

But settlement brought increases of dirt and pollution. In the late 1960s and early 1970s, something snapped, and the grasses declined sharply, to the point that less than one-tenth of the bay bottom was covered with grasses.

To people on the bay, one result was that boat propellers no longer snagged on thickets of underwater plants. But the effects on bay life were significant.

"On land, you need forests to have healthy ecosystems," Naylor said. "The underwater grasses are the forests of our bay."

Young striped bass and blue crabs use meadows of underwater grass to hide from predators. Without grasses, scientists said, crabs must improvise, hiding under sticks or other debris that provides skimpy protection.

"It's not an overstatement to say, 'No grasses, no seafood,' " said William C. Baker, president of the Chesapeake Bay Foundation.

Larry Simns, president of the Maryland Watermen's Association, said those who make their living on the bay were disappointed by yesterday's findings.

But he said the grasses had been so scarce, for so long, that even last year's sharp decline had barely registered.

"That little bit of difference, we didn't even notice it, because we've hardly got any left," Simns said.

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